

CLAIMS

1. A binder composition for an electrode for an electric double layer capacitor comprising a binder polymer and water, wherein said binder polymer comprises:

50 to 98% by mole of monomer units (a) derived from a compound represented by the following general formula:



wherein R^1 represents a hydrogen atom or an alkyl group, and R^2 represents an alkyl group having 2 to 18 carbon atoms or a cycloalkyl group having 3 to 18 carbon atoms,

1 to 30% by mole of monomer units (b) derived from an α,β -ethylenically unsaturated nitrile compound, and

0.1 to 10% by mole of monomer units (c) derived from a multifunctional ethylenically unsaturated carboxylic acid ester;

has a glass transition temperature from -80 to 0°C .

2. The binder composition for the electrode for the electric double layer capacitor according to claim 1, wherein the binder polymer further comprises 1 to 10% by mole of monomer units (d) derived from an ethylenically unsaturated carboxylic acid.

3. The binder composition for the electrode for the electric double layer capacitor according to claim 1 or 2, wherein the particle diameter of the binder polymer is from 50 to 1000 nm.

4. A slurry for an electrode for an electric double layer capacitor, comprising the binder composition for the electrode

for the electric double layer capacitor as claimed in any one of claims 1 to 3, and a carbonaceous material.

5. The slurry for the electrode for the electric double layer capacitor according to claim 4, wherein the carbonaceous material comprises active carbon having a specific surface area of 30 m² or more.

6. The slurry for the electrode for the electric double layer capacitor according to claim 4 or 5, further comprising a thickener.

7. A process for producing an electrode for an electric double layer capacitor, wherein the slurry for the electrode for the electric double layer capacitor as claimed in any one of claims 4 to 6 is applied onto a current collector, and then dried.

8. The process for producing the electrode for the electric double layer capacitor according to claim 7, wherein the drying is performed at the temperature from 120 to 250°C.

9. An electrode for an electric double layer capacitor, wherein an electrode layer is bound onto a current collector, the electrode layer comprising a carbonaceous material and a binder polymer which comprises:

50 to 98% by mole of monomer units (a) derived from a compound represented by the following general formula:



wherein R¹ represents a hydrogen atom or an alkyl group, and R² represents an alkyl group having 2 to 18 carbon atoms or a cycloalkyl group having 3 to 18 carbon atoms,

1 to 30% by mole of monomer units (b) derived from an α,β -ethylenically unsaturated nitrile compound, and

0.1 to 10% by mole of monomer units (c) derived from a multifunctional ethylenically unsaturated carboxylic acid ester; and

has a glass transition temperature from -80 to 0°C.

10. The electrode for the electric double layer capacitor according to claim 4, wherein the binder polymer further comprises 1 to 10% by mole of monomer units (d) derived from an ethylenically unsaturated carboxylic acid.

11. An electric double layer capacitor having the electrode for the electric double layer capacitor as claimed in claim 9 or 10.